IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	FLANIGAN, PEGGY-JEAN P.		
Application No.:	09/974710	Confirmation No.:	7863
Filed:	October 9, 2001	Group Art Unit	1794
Title:	LAMINATES WITH STRUCTURED LAYERS		

BRIEF ON APPEAL

Mail Stop: Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

I hereby certify that this correspondence is being:

☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at 571-273-8300.

☒ transmitted to United States Patent and Trademark Office on the date shown below via the Office electronic filing system.

January 28, 2010 /Kim Elfstrom/
Date Signed by: Kim Elfstrom

Dear Sir:

This is an appeal from the Office Action mailed on September 1, 2009, in light of the Advisory Action mailed November 5, 2009, finally rejecting claims 1, 3-7, 12, 14-15, 19-22, 26, 28-35, and 57-60.

Fees

☒ Any required fee under 37 CFR § 41.20(b)(2) will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.17 which may be required to Deposit Account No. 13-3723.

☐ Please charge any fees under 37 CFR §§ 37 CFR § 41.20(b)(2) and 1.17 which may be required to Deposit Account No. 13-3723.

☒ Please charge any additional fees associated with the prosecution of this application to Deposit Account No. 13-3723. This authorization includes the fee for any necessary extension of time under 37 CFR § 1.136(a). To the extent any such extension should become necessary, it is hereby requested.

☒ Please credit any overpayment to the same deposit account.

A Notice of Appeal in this application was mailed on December 1, 2009, and was received in the USPTO on December 1, 2009.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues of this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

REAL PARTY IN INTEREST

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

STATUS OF CLAIMS

Claims 1, 3-7, 12, 14-15, 19-22, 26, 28-53, 55 and 57-60 are pending. Claims 36-53 and 55 are withdrawn. Claims 1, 3-7, 12, 14-15, 19-22, 26, 28-35, and 57-60 stand rejected. Claims 1, 3-7, 12, 14-15, 19-22, 26, 28-35, and 57 are appealed.

.

STATUS OF AMENDMENTS

No amendments have been filed after the final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The claims at issue concern laminate articles including one or more structured layers.

In independent claim 1, an article (see for example Figures 1A and 1B) including at least one adhesive layer (see for example Figure 1B adhesive layer 110, page 5 line 16) with a first major surface (see for example Figure 1B one structured major surface 120, page 5 line 16) and a second major surface (see for example Figure 1B adhesive layer 110 further includes a second major surface 130, page 5 line 21) wherein at least one of the first and second major surfaces is a structured surface (see for example Figure 1B one structured major surface 120, page 5 line 16, second major surface 130, which may be structured or non-structured, page 5 lines 21-22);

and a backing (see for example Figure 1B the structured topography includes structures 114 with specific shapes that form a plurality of discrete reservoirs or channels 140 when overlain by the cap layer 100, page 7 lines 10-11, in one preferred embodiment of the invention, the cap layer 100 is a backing, page 10, line 16) directly adjacent to the structured surface(s) of the at least one adhesive layer (see for example Figure 1B the structured topography includes structures 114 with specific shapes that form a plurality of discrete reservoirs or channels 140

when overlain by the cap layer 100, page 7 lines 10-11), wherein both surfaces of the backing are non-structured (see for example Figure 1B the structured topography includes structures 114 with specific shapes that form a plurality of discrete reservoirs or channels 140 when overlain by the cap layer 100, page 7 lines 10-11, the cap layer 100, which is preferably a substantially continuous layer, can be, for example, a structured or non-structured backing, page 10 lines 7-8);

wherein the article comprises discrete, encapsulated reservoirs between the structured surface of the at least one adhesive layer and the backing (see for example Figure 1B the structured topography includes structures 114 with specific shapes that form a plurality of discrete reservoirs or channels 140 when overlain by the cap layer 100, page 7 lines 10-11), each reservoir having a void volume of less than 20 nL (see for example Figure 4, discrete reservoirs 152, each discrete reservoir has a void volume of less than about 100 μl, preferably less than 20 nL, page 9, lines 28-29), and

wherein the article has a non-structured exposed adhesive surface that can be adhered to a target substrate (see for example Figure 1B, the article 102 has a non-structured exposed surface 130 that can be adhered to a target substrate, page 8 lines 11-12).

In dependent claim 3, the article of claim 1, wherein the at least one adhesive layer comprises an adhesive selected from the group consisting of pressure sensitive adhesives, epoxy adhesives, structural adhesives, bonding adhesives, and combinations thereof (see for example page 5 lines 27-28 and page 6 lines 28-30).

In dependent claim 4, the article of claim 3, wherein the pressure sensitive adhesive is selected from the group consisting of acrylics, natural and synthetic rubbers, ethylene vinyl acetate, vinyl ethers, silicones, poly(alpha-olefins), and combinations thereof (see for example page 5 line 29- page 6 line 1 and page 6 lines 28-30).

In dependent claim 5, the article of claim 1, wherein said article has a thickness of about 2 μm to about 500 μm (see for example page 7 lines 1-3).

In dependent claim 6, the article of claim 1, further comprising an additional adhesive layer wherein the additional adhesive layer has either a structured adhesive surface or a non-

structured adhesive surface (see for example Figures 5A-C page 11, line 17-page 12 line 2, specifically Figure 5B, in the construction 204 in Fig. 5B, the first major surface 220 of adhesive layer 210 is in contact with the backing 242, and the second major surface 230 is in contact with the cap layer 200 page 11 lines 24-26, and cap layer 200 is a non-structured adhesive layer page 11 lines 17-18, and in another embodiment, the cap layer can be a structured adhesive layer page 11 line 27).

In dependent claim 7, the article of claim 1, further comprising at least one non-adhesive layer in contact with one of the first and second major surfaces (see for example Page 14 lines 12-19).

In dependent claim 12, the article of claim 1, wherein said reservoirs contain at least one deliverable or non-deliverable substance (see for example page 7, lines 19-20).

In dependent claim 13, the article of claim 12, wherein the at least one deliverable or non-deliverable substance is selected from hormones, antibiotics, antimicrobials, antifungal agents, lotions, ointments, indicators, proteins, inks, dyes, drugs, and vibration-damping fluids (see for example page 7 line 30-page 8 line 2).

In dependent claim 15, the article of claim 12, wherein the at least one deliverable or non-deliverable substance is in the form selected from the group consisting of solids, liquids, gels, pastes, foams, powders, agglomerated particles, microencapsulated liquids, suspensions, and combinations thereof (see for example page 7 lines 29-30).

In dependent claim 19, the article of claim 1, wherein the backing is a laminate (see for example page 11 lines 12-13 and page 16 lines 7-10).

In dependent claim 20, the article of claim 6, wherein the second major surface of the at least one adhesive layer is a non-structured surface, the backing contacts the first major surface, and wherein the article further comprises a backing layer on the second major surface (see for example Figure 5B page 11 lines 24-26).

In dependent claim 21, the article of claim 6, wherein the second major surface of the at least one adhesive layer is a structured surface, the backing contacts the first major surface, and wherein the article further comprises a backing layer on the second major surface (see for example Figure 1B, page 5 lines 15-22 and Figures 6A, 6B and 7 page 14 lines 12-19).

In independent claim 22, a tape (see for example page 2 lines 27-30) including:

(a) at least one pressure sensitive adhesive layer comprising a first major surface and a second major surface, wherein the first major surface is a structured surface and the second major surface is a non-structured surface(see for example page 2 lines 27-30); and

(b) a non-adhesive flexible backing, non-structured on both surfaces, directly adjacent to the first major surface,

wherein the tape comprises discrete, encapsulated reservoirs between the structured surface of the adhesive layer and the backing (see for example Figure 1B the structured topography includes structures 114 with specific shapes that form a plurality of discrete reservoirs or channels 140 when overlain by the cap layer 100, page 7 lines 10-11, the cap layer 100, which is preferably a substantially continuous layer, can be, for example, a structured or non-structured backing, page 10 lines 7-8), each reservoir having a void volume of less than 20 nL (see for example Figure 4, discrete reservoirs 152, each discrete reservoir has a void volume of less than about 100 μl, preferably less than 20 nL, page 9, lines 28-29), and

wherein the tape has a peel strength of at least 21-42 oz/0.5 inch for a thickness of 0.003 to 0.007 inches (see for example page 8 lines 13-15).

In dependent claim 26, the tape of claim 22, further comprising a backing adjacent the second major surface (see for example Figure 1B, page 5 lines 15-22 and Figure 6A, page 14 lines 12-19).

In dependent claim 28, the laminate article of claim 1 comprising:

a second adhesive layer having a first major surface and a second major surface, wherein at least one of the first and second major surfaces is a structured surface,

wherein the at least one adhesive layer and the second adhesive layer are in contact (see for example Figure 6A, page 14 lines 12-19).

In dependent claim 29, the laminate article of claim 28, wherein the first major surface of the first adhesive layer is a structured surface and the second major surface of the first adhesive layer is a non-structured surface, and the first major surface of the second adhesive layer is a structured surface and the second major surface of the second adhesive layer is a non-structured surface, and the second major surface of the first adhesive layer contacts the first major surface of the second adhesive layer (see for example Figure 12A, page 17 lines 10-17).

In dependent claim 30, the laminate article of claim 28, further comprising a backing on the second major surface of the second adhesive layer (see for example Figure 12A, page 17 lines 10-17).

In dependent claim 31, the laminate article of claim 28, further comprising a cap layer on the first major surface of the first adhesive layer (see for example Figure 6A, page 14 lines 12-19).

In dependent claim 32, the laminate article of claim 28, wherein the first major surface of the first adhesive layer contacts the first major surface of the second adhesive layer (see for example Figures 6A, 6B and 7 page 14 lines 12-19).

In dependent claim 33, the laminate article of claim 28, further comprising a backing layer on the second major surface of the first adhesive layer (see for example page 14 lines 12-19).

In dependent claim 34, the laminate article of claim 28, wherein the first adhesive layer has a first pattern of structures on the first major surface thereof and the second adhesive layer has a second pattern of structures on the first major surface thereof, and wherein the first pattern is substantially aligned with the second pattern (see for example Figure 6A, page 12 line31- page 13 line 1).

In dependent claim 35, the laminate article of claim 34, wherein the first pattern is misaligned with the second pattern (see for example Figure 6A, page 12 line31- page 13 line 1).

In dependent claim 57, the article of claim 1, wherein the void volume is less than about 4 nL (see for example page 9 line 29, more preferably less than 4 nL).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection

Claims 1, 3, 4, 5, 7, 12, 14, 15, 19, 22, 26 and 57-60 stand rejected under 35 USC § 103(a) as purportedly unpatentable over the teachings of JP Patent Publication No. 11-181367 (Hata) "Hata-1".

Second Ground of Rejection

Claims 6, 20, 21 and 28-35 stand rejected under 35 USC § 103(a) as purportedly unpatentable over the combined teachings of JP Patent Publication No. 11-181367 (Hata) "Hata-1", and PCT Publication WO 97/33946 (Hata) "Hata-2".

ARGUMENT

First Ground of Rejection

Claims 1, 3, 4, 5, 7, 12, 14, 15, 16, 19, 22, 26 and 57 stand rejected under 35 USC § 103(a) as being purportedly unpatentable over JP Patent Publication No. 11-181367 (Hata) "Hata-1".

Appellants point out that JP Patent Publication No. 11-181367 (Hata) is equivalent to PCT Publication No. WO 99/24519 which is in English and will be referred to in the reply to this rejection as "Hata-1"

In the final rejection, the Examiner has stated that Hata-1 teaches an article with at least one adhesive layer with first and second major surfaces wherein at least one surface is a structured surface, and a backing directly adjacent to the structured surface of the adhesive layer, wherein both surfaces of the backing are non-structured. The Examiner goes on to state that the article of

Hata-1 comprises discrete, encapsulated reservoirs between the structured surface of the adhesive layer and the backing and a non-structured adhesive surface that can be adhered to a target substrate.

The Examiner also states that Hata-1 fails to disclose each reservoir having a void volume of less than 20 nL and the article having a peel strength of at 21-42 oz/0.5 inch for a thickness of 0.003 to 0.007 inches, the claimed volume of reservoirs, peel strength, and thickness of the tape.

The Examiner goes on to state that it would have been obvious for one of ordinary skill in the art to modify Hata-1 to have the claimed ranges. In particular, the Examiner states that it would have been obvious to have modified the reservoirs of Hata-1 to have a void volume of less than 20 nL since if the general conditions are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art in the absence of showing unexpected results.

Appellants point out that one of ordinary skill in the art cannot, from the teachings of Hata-1, achieve the articles of the present invention without the teachings of the present specification. Not only is there is no teaching, suggestion, disclosure or enablement in Hata-1 that the articles formed with the protrusions of Hata-1 would have such void volumes, in fact Hata-1 teaches away from such articles. On page 8 of the WO 99/24519 publication on lines 18-23, in describing the volumes of depressions formed by the protrusions, Hata-1 states: "That is, the volume of each depression enclosed by the protrusions is preferably in the range 1-600 mm^3. If the volume of the depression is less than 1 mm^3, the heat shielding and vibration resistance effect will tend to be reduced,..." Since 1 mm^3 is equivalent to 1,000 nL, the minimum volume taught by Hata-1 is 50 times larger than the maximum volume presented in the present claims. Further, Hata-1 teaches away from smaller volumes by stating that smaller volumes would not permit the article to function in the way designed. The Examiner has stated that Hata-1 does not teach away from the present volumes since the range of 1-600 mm^3 is a preferred range, however, Appellants point out that Hata-1 does indeed teach that volumes of less than 1 mm^3 (1,000 nL) would reduce the heat shielding and vibration resistance and therefore Hata-1 does teach away from the void volumes of the present claims, such void volumes are non-functional embodiments not merely non-preferred embodiments.

Appellants further point out that the preparation of a macroscopically large article does not teach, enable or suggest a microscopically small article with a similar structure. For example, if one wanted to prepare a rubber ball with a 1 inch (2.54 centimeter) diameter, such a

ball would not be difficult to manufacture with present machine technology, and such balls are commonly used as toys. However, if one wished to prepare a rubber ball that was 50 times smaller than that (the difference between the minimum volume taught by Hata-1 and the maximum volume of the present claims) one would need to prepare a rubber ball with a diameter of 0.05 centimeters or half of a millimeter in diameter. Such a ball would be difficult to make, would require different tools and equipment and would function quite differently. While such a ball might be useful for something, it would not be useful as a toy. If one compares the maximum volume taught by Hata-1 to the maximum of the present claims, the difference is 30,000. One would have to prepare a rubber ball with a diameter of 0.000085 centimeters. Such a rubber micro-ball is so different from the 1 inch rubber ball that it could no longer be called a ball, would not have the same properties as a ball, and clearly could not be prepared by the techniques used to prepare the 1 inch ball. Similarly, the microscopic reservoirs of the present claims are very different from the macroscopic reservoirs of Hata-1, and Hata-1 provides no motivation (in fact teaching away from making smaller reservoirs) teaching or suggestion for the microscopic structures of the present claims.

Claims 3, 4, 5, 7, 12, 14, 15, 16, 19, and 57 each add additional limitations to claim 1. Since claim 1 is patentable for the reasons listed above, each of these claims is also patentable for at least those same reasons.

Claims 22 and 26 relate to tape articles. The tape article of claim 22 contains the same limitations as the article of claim 1 and therefore the same arguments given above relating to claim 1 are also applicable to claim 22. Claim 26 adds additional limitations to claim 22. Since claim 22 is patentable for the reasons listed above, this claim is also patentable for at least those same reasons.

Appellants assert that the rejection of claims 1, 3, 4, 5, 7, 12, 14, 15, 16, 19, 22, 26 and 57 under 35 USC § 103(a) as being purportedly unpatentable over JP Patent Publication No. 11-181367 (Hata) "Hata-1" should be reversed.

Second Ground of Rejection

Claims 6, 20, 21 and 28-35 stand rejected under 35 USC § 103(a) as purportedly unpatentable over the combined teachings of JP Patent Publication No. 11-181367 (Hata) "Hata-1", and PCT Publication WO 97/33946 (Hata) "Hata-2".

Appellants point out that JP Patent Publication No. 11-181367 (Hata) is equivalent to PCT Publication No. WO 99/24519 which is in English and will be referred to as "Hata-1" in the reply to this rejection.

In the final rejection, the Examiner has stated that Hata-1 fails to teach a second adhesive layer having a first and second major surface wherein at least one the first and second major surfaces is a structured surface, wherein the at least one adhesive layer and the second adhesive layer are in contact, and the first major surface of the first adhesive layer being a structured surface and the second major surface of the first adhesive layer being a non-structured surface and the first major surface of the second adhesive layer being a structured surface and the second major surface of the second adhesive layer being a non-structured surface, and the second major surface of the first adhesive layer contacting the first major surface of the second adhesive layer.

The Examiner is utilizing the Hata-2 reference which teaches in Figure 3a the lamination together of adhesive layers to supply this lack in Hata-1.

All of these appealed claims are dependent upon claim 1 which has been amended to include the description "each reservoir having a void volume of less than 20 nL". There is no teaching, suggestion, disclosure or enablement in Hata-1or Hata-2 for articles that have such void volumes. In fact, as described above, Hata-1 teaches volumes in the range 1-600 mm^3 and Hata-2 teaches volumes of 0.8 to 600 mm^3. Further, Hata-1teaches away from smaller volumes by stating that smaller volumes would not permit the article to function in the way designed. Therefore there is no way to combine these references and obtain the present claims, nor is there any motivation to do so based upon the teachings therein.

CONCLUSION

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

January 28, 2010
Date

By: /Jeffrey M. Olofson/
Jeffrey M. Olofson, Reg. No.: 45,701
Telephone No.: 651-736-7906

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

CLAIMS APPENDIX

1. (Appealed) An article comprising at least one adhesive layer with a first major surface and a second major surface, wherein at least one of the first and second major surfaces is a structured surface;

and a backing directly adjacent to the structured surface(s) of the at least one adhesive layer, wherein both surfaces of the backing are non-structured;

wherein the article comprises discrete, encapsulated reservoirs between the structured surface of the at least one adhesive layer and the backing, each reservoir having a void volume of less than 20 nL_s and

wherein the article has a non-structured exposed adhesive surface that can be adhered to a target substrate.

3. (Appealed) The article of claim 1, wherein the at least one adhesive layer comprises an adhesive selected from the group consisting of pressure sensitive adhesives, epoxy adhesives, structural adhesives, bonding adhesives, and combinations thereof.

4. (Appealed) The article of claim 3, wherein the pressure sensitive adhesive is selected from the group consisting of acrylics, natural and synthetic rubbers, ethylene vinyl acetate, vinyl ethers, silicones, poly(alpha-olefins), and combinations thereof.

5. (Appealed) The article of claim 1, wherein said article has a thickness of about 2 μm to about 500 μm.

6. (Appealed) The article of claim 1, further comprising an additional adhesive layer wherein the additional adhesive layer has either a structured adhesive surface or a non-structured adhesive surface.

7. (Appealed) The article of claim 1, further comprising at least one non-adhesive layer in contact with one of the first and second major surfaces.

12. (Appealed) The article of claim 1, wherein said reservoirs contain at least one deliverable or non-deliverable substance.

14. (Appealed) The article of claim 12, wherein the at least one deliverable or non-deliverable substance is selected from hormones, antibiotics, antimicrobials, antifungal agents, lotions, ointments, indicators, proteins, inks, dyes, drugs, and vibration-damping fluids.

15. (Appealed) The article of claim 12, wherein the at least one deliverable or non-deliverable substance is in the form selected from the group consisting of solids, liquids, gels, pastes, foams, powders, agglomerated particles, microencapsulated liquids, suspensions, and combinations thereof.

19. (Appealed) The article of claim 1, wherein the backing is a laminate.

20. (Appealed) The article of claim 6, wherein the second major surface of the at least one adhesive layer is a non-structured surface, the backing contacts the first major surface, and wherein the article further comprises a backing layer on the second major surface.

21. (Appealed) The article of claim 6, wherein the second major surface of the at least one adhesive layer is a structured surface, the backing contacts the first major surface, and wherein the article further comprises a backing layer on the second major surface.

22. (Appealed) A tape comprising:

(a) at least one pressure sensitive adhesive layer comprising a first major surface and a second major surface, wherein the first major surface is a structured surface and the second major surface is a non-structured surface; and

(c) a non-adhesive flexible backing, non-structured on both surfaces, directly adjacent to the first major surface,

wherein the tape comprises discrete, encapsulated reservoirs between the structured surface of the adhesive layer and the backing, each reservoir having a void volume of less than 20 nL, and

wherein the tape has a peel strength of at least 21-42 oz/0.5 inch for a thickness of 0.003 to 0.007 inches.

26. (Appealed) The tape of claim 22, further comprising a backing adjacent the second major surface.

28. (Appealed) The laminate article of claim 1 comprising:
a second adhesive layer having a first major surface and a second major surface, wherein at least one of the first and second major surfaces is a structured surface,
wherein the at least one adhesive layer and the second adhesive layer are in contact.

29. (Appealed) The laminate article of claim 28, wherein the first major surface of the first adhesive layer is a structured surface and the second major surface of the first adhesive layer is a non-structured surface, and the first major surface of the second adhesive layer is a structured surface and the second major surface of the second adhesive layer is a non-structured surface, and the second major surface of the first adhesive layer contacts the first major surface of the second adhesive layer.

30. (Appealed) The laminate article of claim 28, further comprising a backing on the second major surface of the second adhesive layer.

31. (Appealed) The laminate article of claim 28, further comprising a cap layer on the first major surface of the first adhesive layer.

32. (Appealed) The laminate article of claim 28, wherein the first major surface of the first adhesive layer contacts the first major surface of the second adhesive layer.

33. (Appealed) The laminate article of claim 28, further comprising a backing layer on the second major surface of the first adhesive layer.

34. (Appealed) The laminate article of claim 28, wherein the first adhesive layer has a first pattern of structures on the first major surface thereof and the second adhesive layer has a second pattern of structures on the first major surface thereof, and wherein the first pattern is substantially aligned with the second pattern.

35. (Appealed) The laminate article of claim 34, wherein the first pattern is misaligned with the second pattern.

57. (Appealed) The article of claim 1, wherein the void volume is less than about 4 nL.

58. (Previously Presented) The article of claim 1, wherein said reservoirs contain at least one deliverable or non-deliverable substance.

59. (Previously Presented) The article of claim 58, wherein the at least one deliverable or non-deliverable substance is selected from hormones, antibiotics, antimicrobials, antifungal agents, lotions, ointments, indicators, proteins, inks, dyes, drugs, and vibration-damping fluids.

60. (Previously Presented) The article of claim 58, wherein the at least one deliverable or non-deliverable substance is in the form selected from the group consisting of solids, liquids, gels, pastes, foams, powders, agglomerated particles, microencapsulated liquids, suspensions, and combinations thereof.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.